



Butamax™ Advanced Biofuels LLC

A joint venture between BP and DuPont



*Biobutanol's Contribution to Renewable
Fuels Industry Growth*

Biomass 2010 – March 30, 2010

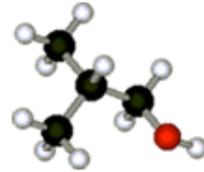
Tyler Ames

VP and Chief Science & Technology Officer





WORLD SCALE OIL, GAS,
AND RENEWABLE ENERGY
COMPANY



BIOBUTANOL



WORLD LEADER IN
BIOTECHNOLOGY RESEARCH &
DEVELOPMENT AND PROCESS
ENGINEERING

Butamax[®]
Advanced
Biofuels LLC



CANE



CORN



WHEAT



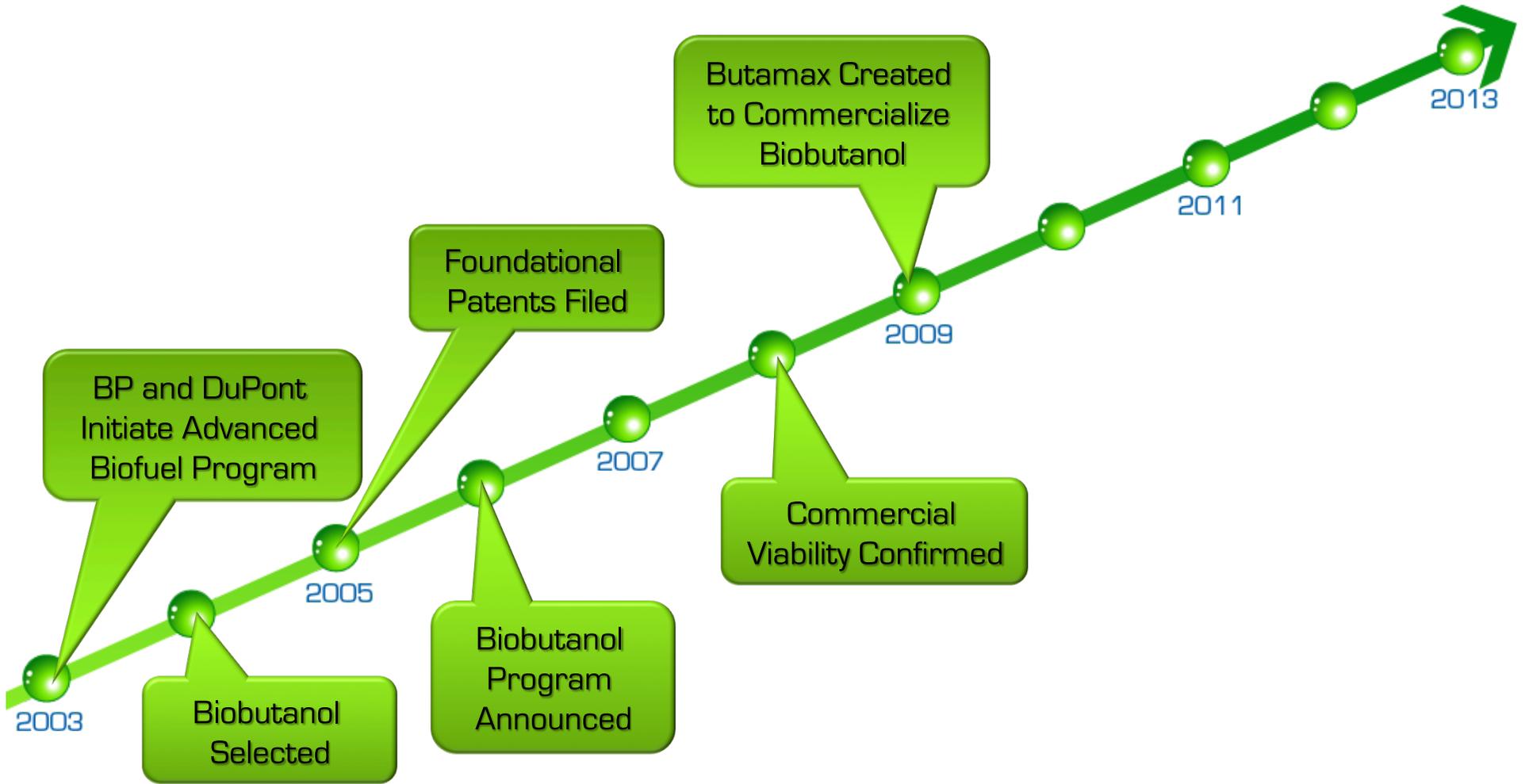
CELLULOSE

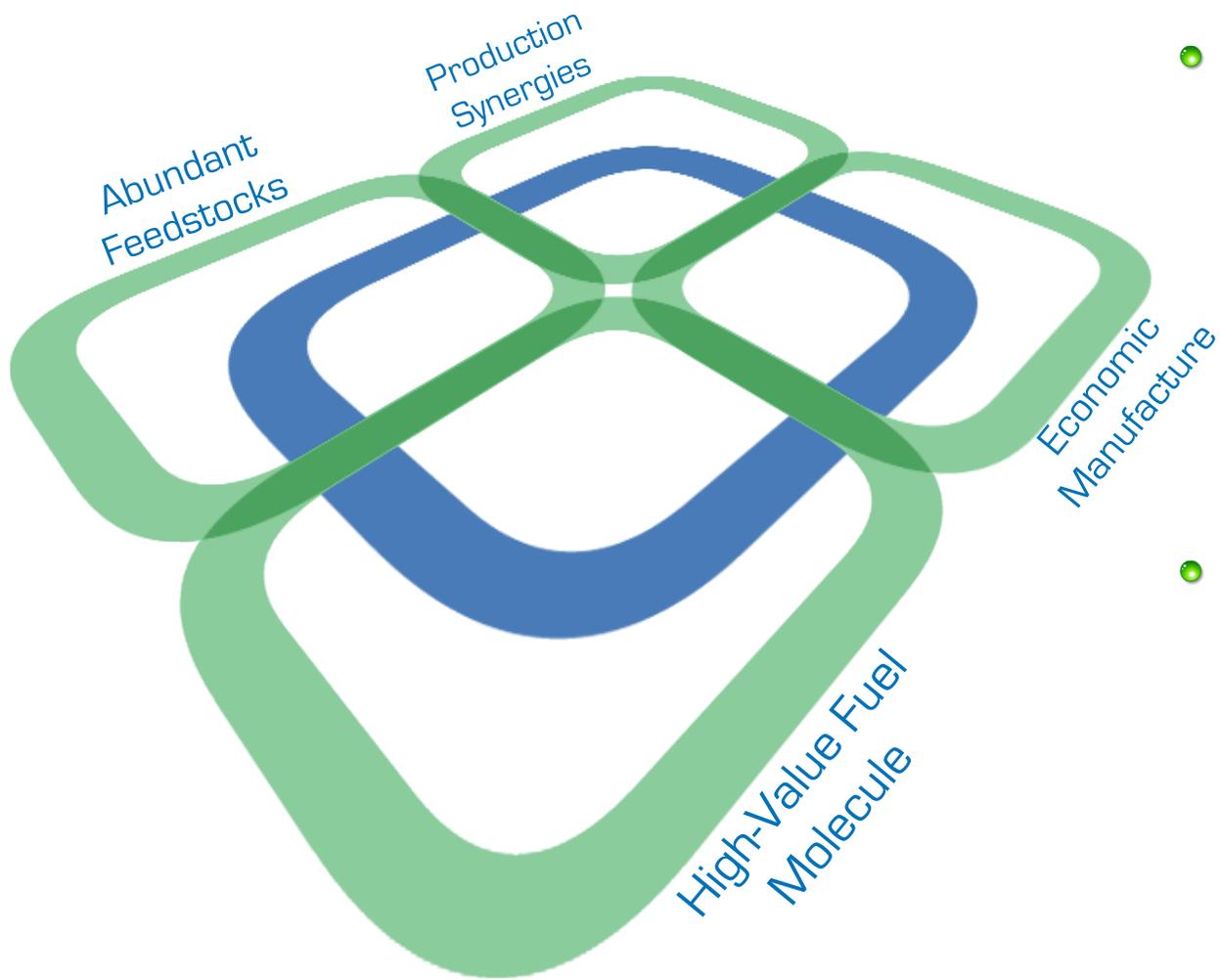


MACROALGAE



FUTURE
INDUSTRY
DISCOVERY



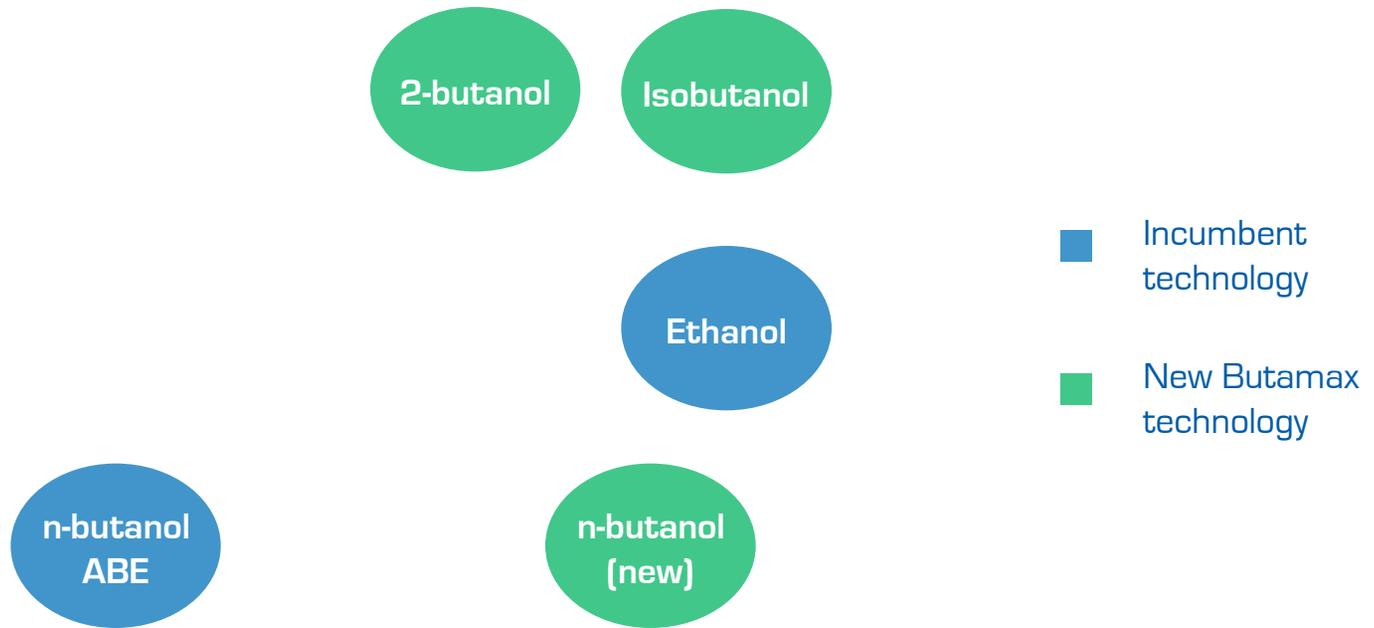


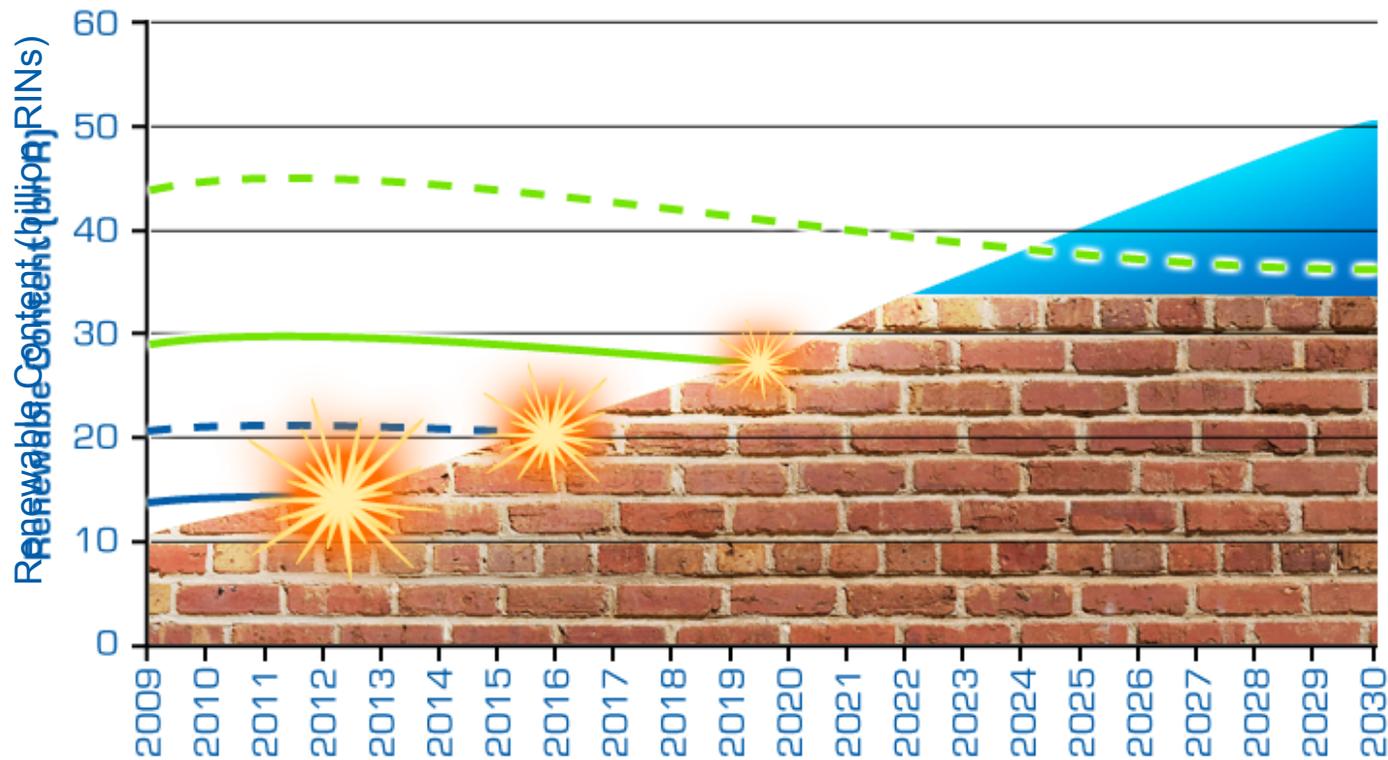
- Biofuels can supply 20% of global transportation fuels demand

- Biobutanol is Scalable due to:
 - Excellent fuel properties
 - Infrastructure compatibility
 - Feedstock options and GHG reduction
 - Option for existing biofuel producers and assets

Considerations for Selecting a Biofuel

*Why
BioButanol?*





-  RFS2
-  24% Butanol
-  16% Butanol
-  15% Ethanol
-  10% Ethanol

Together We Can Fuel a Step Change in the Biofuels Industry

Redefining Growth



BIOBUTANOL



**CONSUMER
CONVENIENCE
FUEL ECONOMY
EMISSIONS
DRIVEABILITY**

**EFFICIENT DELIVERY OF
POLICY OBJECTIVES**

GREATER ENERGY SECURITY

REDUCED FOSSIL CARBON INTENSITY

SUPPORTS RENEWABLE ENERGY AND AGRICULTURAL POLICY

LOWER COSTS, RISKS & UNCERTAINTIES

BioButanol Adds Value Throughout the Supply Chain

*How
BioButanol
Fits*



Synergy with Existing Biofuels Production

*Plant
Conversion*



Synergy with Existing Biofuels Production

*Plant
Conversion*

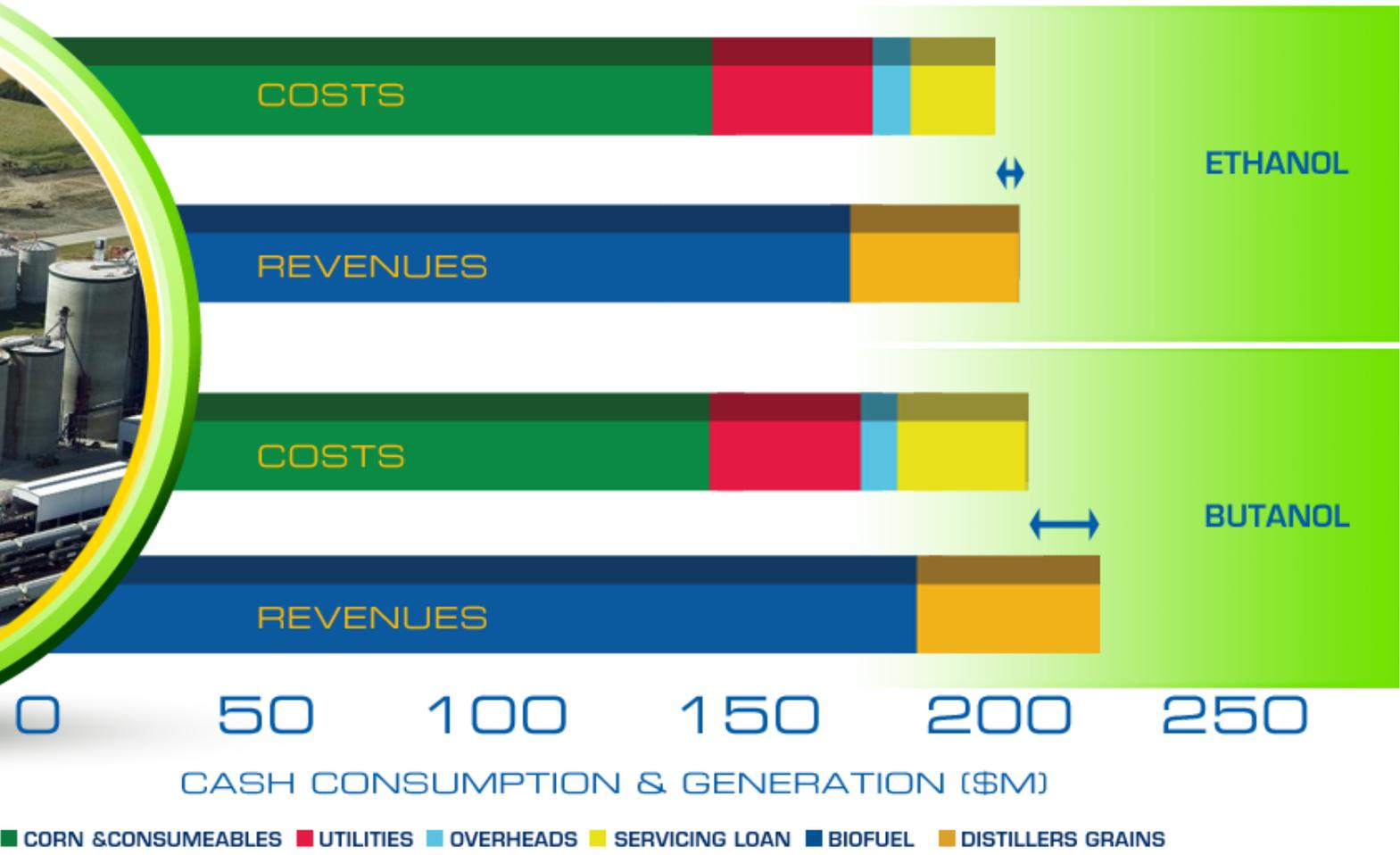
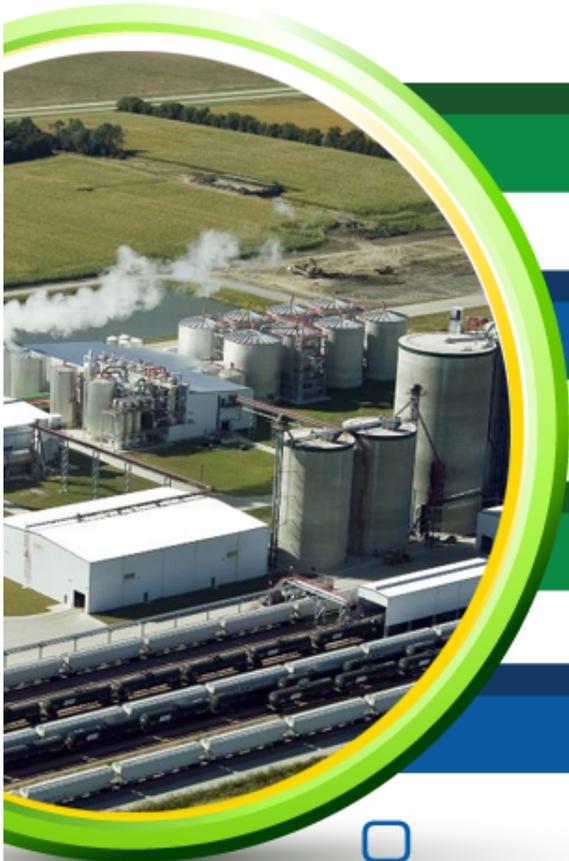


Fermentation

*Alcohol Recovery
and Refining*

Synergy with Existing Biofuels Production

*Plant
Conversion*

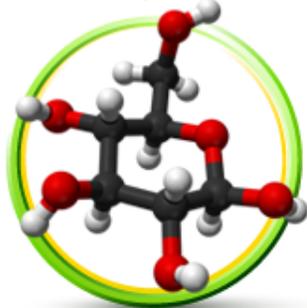


Biobutanol Offers Improved Cash Flow for Biofuels Production

Benefits for Producers



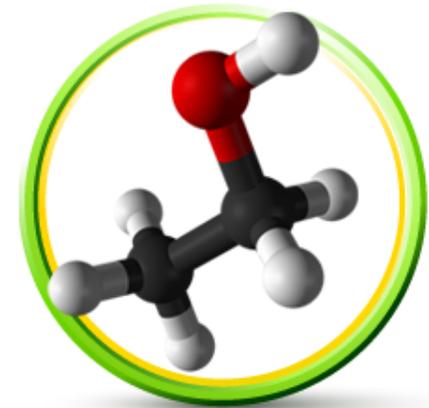
FEEDSTOCK



SUGAR



FERMENTATION

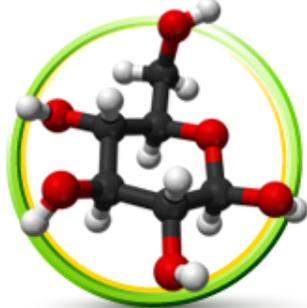


ETHANOL

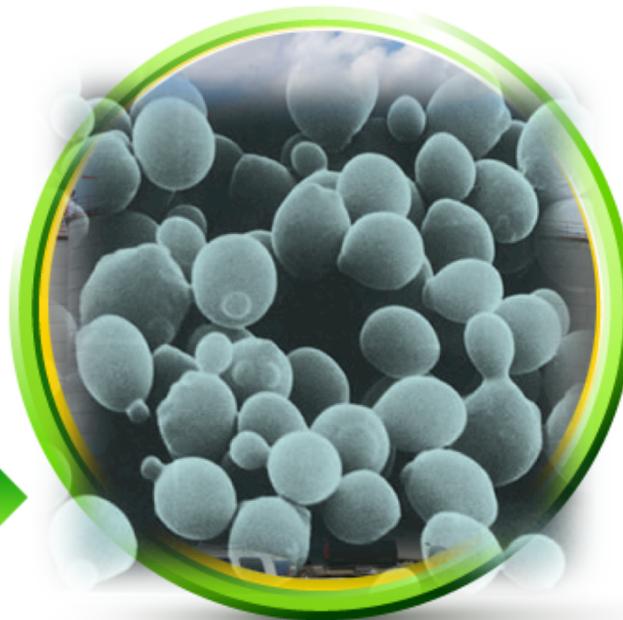
Economic Manufacture from Fermentable Sugars via Yeast



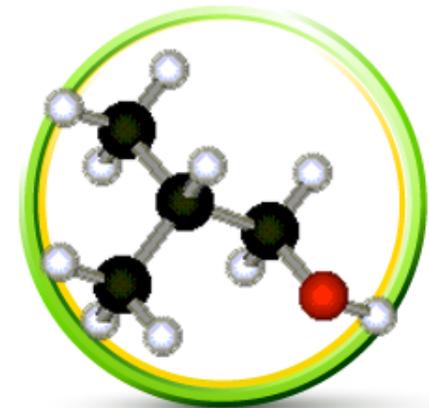
FEEDSTOCK



SUGAR



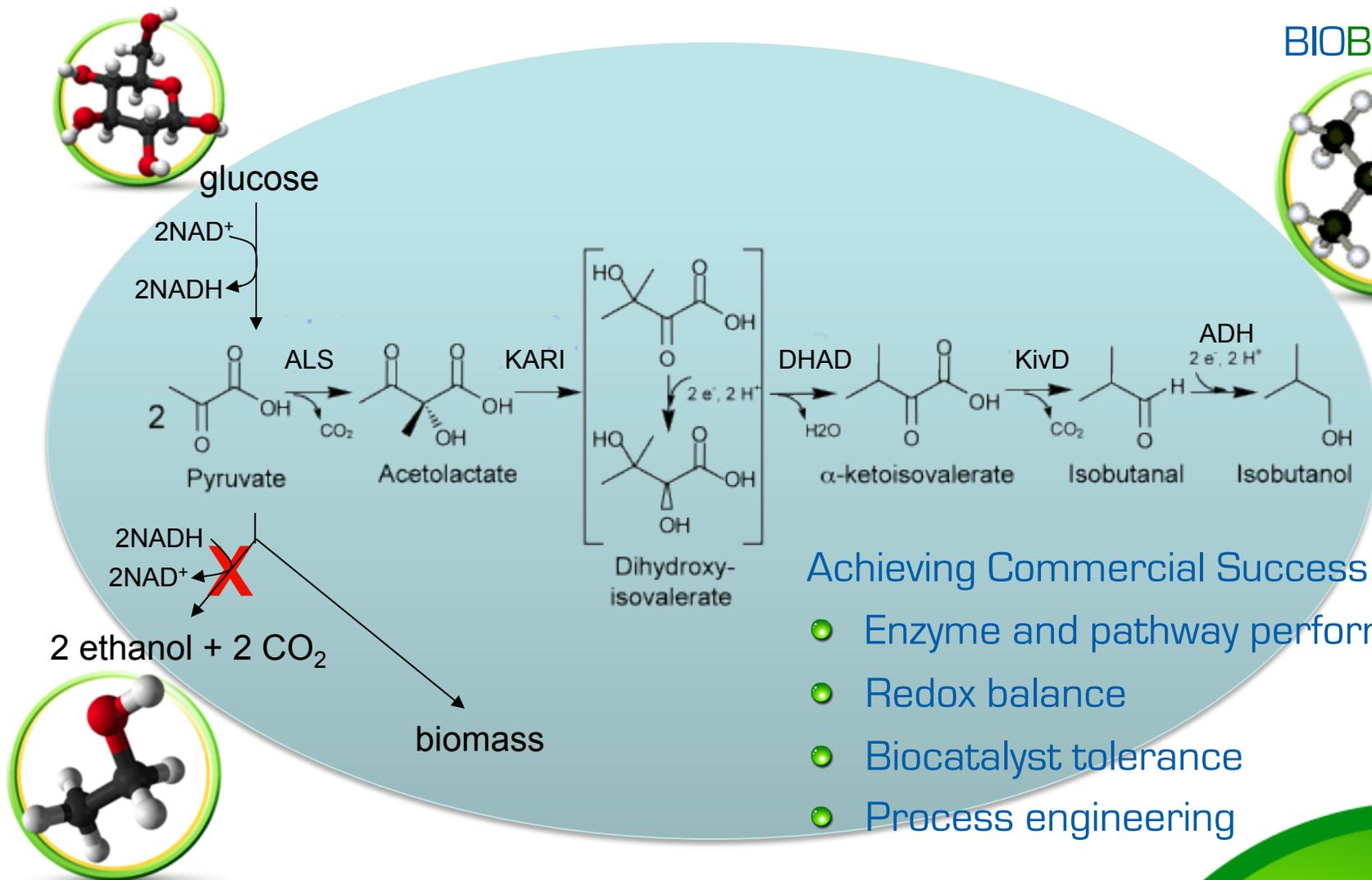
FERMENTATION



BIOBUTANOL

Economic Manufacture from Fermentable Sugars via Yeast

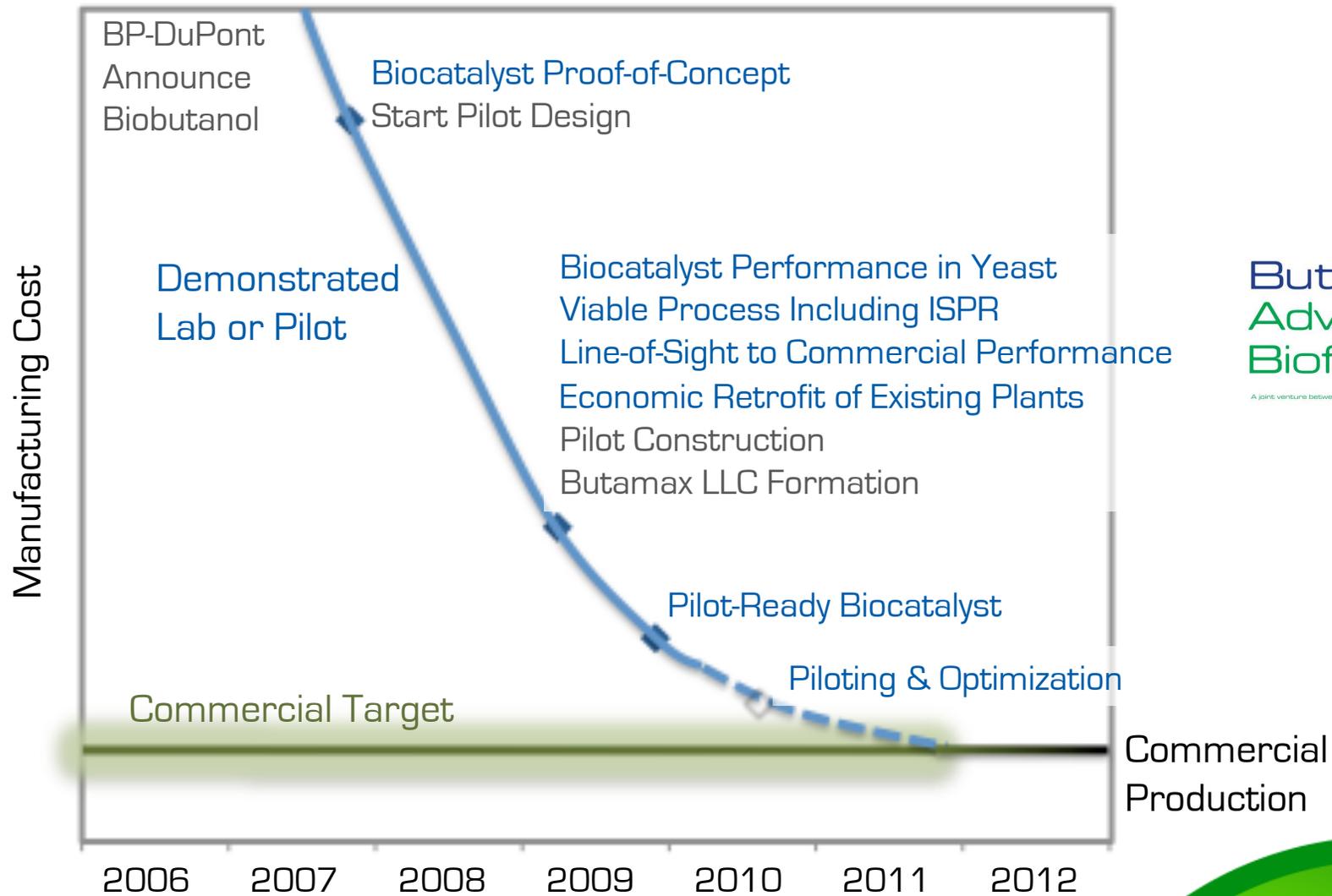
BIOBUTANOL



Achieving Commercial Success

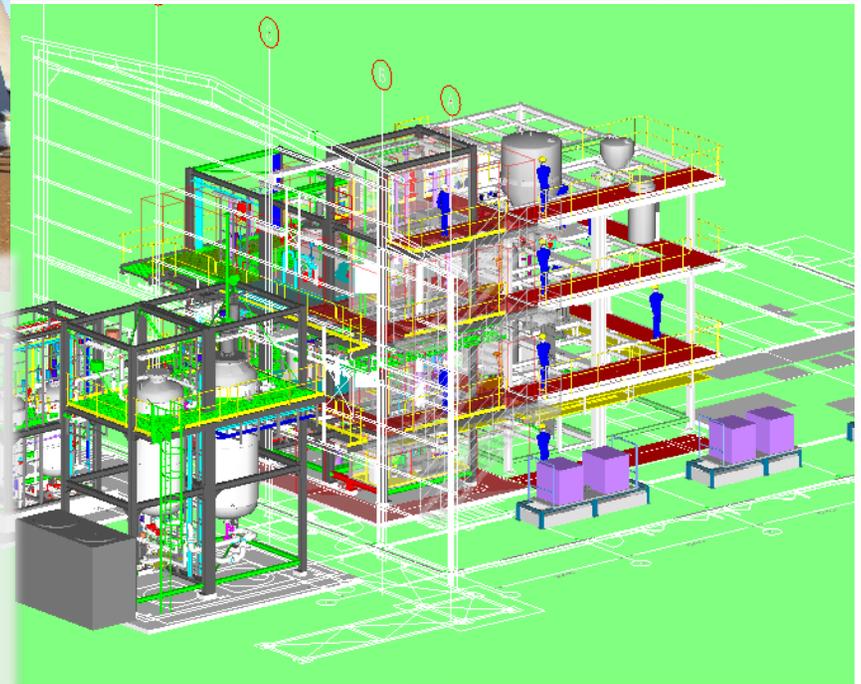
- Enzyme and pathway performance
- Redox balance
- Biocatalyst tolerance
- Process engineering

De Novo Pathway for Economic Production and GHG Performance



**Butamax™
Advanced
Biofuels LLC**
A joint venture between BP and DuPont

Significant R&D Progress and
On Track To Commercial Target



- BP Hull UK Research Technology Center
- Fully integrated piloting facility
- Nominal 40,000 GPY scale
- \$US 50 million total investment
- 30 person technology & operations team
- Operational 3Q2010

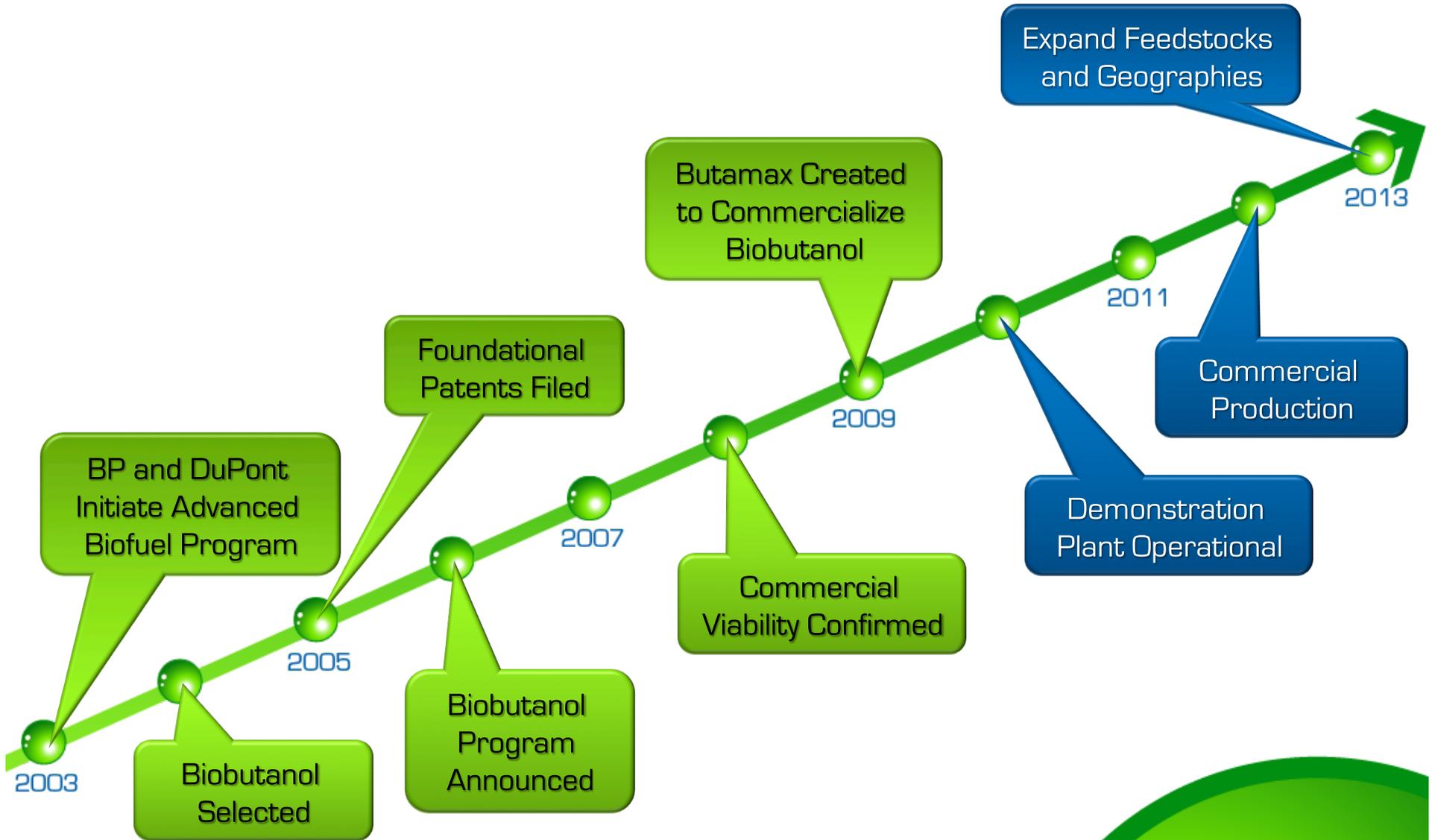
Technology Demonstration Plant to Mitigate Technology Risks

- Parallel fuels technology program since 2005
- Enabling adoption by fuel producers & retailers, automotive OEMs, regulatory agencies, and consumers
- Biobutanol fleet testing and extensive fuel performance testing in Chicago, IL and Bochum, Germany
- 135 cars including all 1995 – 2009 model years tested to date with 1.5 million miles driven
- Retail trial completed in the UK (2008 – 2009)
 - Blend supplied to ten retail sites as EN228 compliant gasoline
 - Approximately 250,000 vehicle fills and 80 million miles driven
 - Extensive favorable laboratory, engine, and vehicle demonstrations confirmed in real world
 - Biobutanol can be handled as a “normal” fungible fuel component and introduced without special procedures



Fuels Technical & Marketing Program is
Critical to Commercialization Success

*Fuel Blend
Validation*



Commercialization Pathway

*Commitment
to Success*

Biobutanol Can Enable Renewable Fuels Industry Growth By:



- Offering a combination of excellent fuel properties and attractive production economics – applicable to a range of important feedstocks
- Overcoming current vehicle and infrastructure constraints to allow much higher renewable content in gasoline
- Offering existing and future ethanol producers the opportunity to transition to a higher value product while leveraging investments
- Creating value for stakeholders throughout the entire supply chain and offering an effective route to high levels of renewable content in gasoline
- Continued Butamax™ progress on its development and commercialization path that includes:
 - Start up of the Hull UK Technology Demonstration Plant in 3Q2010
 - Full scale commercial production in 2012/2013

Conclusions